

A NEW GENUS AND SPECIES OF CHEYLETIDAE

(ACARINA)

ROBERT L. SMILEY, *Systematic Entomology Laboratory, Agricultural Research Service, U.S. Department of Agriculture, Washington, D.C. 20250*

and

G. L. WILLIAMS, *Department of Entomology, University of Maryland, College Park, Maryland 20742*

ABSTRACT—*Neochelacheles messersmithi*, a new genus and species of cheyletid mite, is described and illustrated. The species was collected in large numbers from the punctations on the elytra and pronotum of the tenebrionid *Boletotherus cornutus* (Panzer).

In a recent study by Summers and Price (1970) the genera of the family Cheyletidae were redefined. Here another new genus is described. Specimens were collected from the tenebrionid *Boletotherus cornutus* (Panzer) initially found at Cranessville, West Virginia. This new genus is similar to *Chelacheles* Baker (1958) which has no shields, but differs by having two well-defined shields on the dorsum of the idiosoma.

Neochelacheles, n. gen.

Palpal tarsus with one comblike and two sicklelike setae; palpal tibia with claw bearing five strong pointed teeth. Protegmen and tegmen conspicuously ornamented with small alveoli and merged with rostrum. Eyes present, corneas almost hemispherical. Dorsum of idiosoma slender and elongated; with two strongly sclerotized shields consisting of longitudinal alveoli of different sizes and shapes and covering propodosoma and hysterosoma. Each shield with six pairs of palmate-serrate setae. Peritreme with six segments. Legs I-II and III-IV are widely separated; legs IV point directly to rear of idiosoma. All tarsal claws smooth, without basal projections, and with a padlike empodium with tenent hairs. Solenidion W I extremely long, longer than greatest diameter of tarsus; guard seta shorter than W I, smooth, in duplex position. Anogenital apparatus relatively short; two pairs of simple paragenital setae, three pairs of simple genitals, and two pairs of serrate anals.

Type-species: *Neochelacheles messersmithi*, n. sp.

Neochelacheles messersmithi, n. sp.

(Figs. 1-6)

This species may be recognized by the long slender idiosoma with two dorsal shields bearing longitudinal alveoli of irregular sizes and shapes and with each shield possessing six pairs of subequal palmate-serrate setae.



Figs. 1-6. *Neochelacheles messersmithi*, n. gen., n. sp., ♀: 1, dorsum; 2, right leg I; 3, right leg II; 4, right leg III; 5, right leg IV; 6, venter, anogenital.

Female.—Palpal claw with five strongly pointed teeth; palpal tarsus with one comblike seta with ten teeth, and two sicklelike setae. Rostrum almost triangular in outline, surface with no obvious ornamentation. Protegmen and tegmen conspicuously ornamented with small alveoli and merged with rostrum. Peritremes obtusely bent where short transverse segments give rise to much longer descending segments, and with six segments on each side of tegmen. Two subequal shields which cover entire dorsum of idiosoma, separated by fine striae transversely. One pair of eyes present, corneas almost hemispherical. Fifteen pairs of subequal palmate-serrate setae, including humerals, present on dorsum. Propodosomal shield rectangular, with six pairs of palmate-serrate setae, and densely ornamented with longitudinal alveoli of different shapes and sizes.

Hysterosomal shield subtriangular in shape, narrowing posteriorly; with six pairs of subequal palmate-serrate setae and longitudinal alveoli of different sizes and shapes. Legs I–II and III–IV widely separated; tarsal claws smooth and with a padlike empodium with tenent hairs. Setae on coxae I–IV 2-1-2-2, as figured. Anogenital apparatus relatively short; two pairs of subequal, simple paragenital setae, three pairs of subequal, simple genital setae, and two pairs of serrate anal setae, outer pair longer than inner pair. Length of body including gnathosoma 439 μ ; width 120 μ .

Male.—Unknown.

The female holotype, USNM No. 3470, was collected from the tenebrionid *Boletotherus cornutus* (Panzer) which was taken from an errarium, Department of Entomology, University of Maryland, College Park, Maryland on 1 April, 1971, by G. L. Williams. *Paratypes*. Thirty paratypes and many unmounted specimens with the same data.

Initially adults and pupae of this tenebrionid were collected from a large shelf fungus on an Eastern Hemlock stump at "Famous Swamp," Cranessville, West Virginia, on 14 June, 1970, by the junior author. The fungus bearing the beetles was placed in an established twenty-gallon errarium containing wood soil and organic matter and sealed by a glass top to prevent the escape of arthropods. The constant high humidity and rich substrate provided ideal conditions for the rapid growth and reproduction of organisms confined therein. This errarium contains other arthropods introduced over the past years. Cissidae, Passalidae, with associated mites, Entomobryidae, Collembola, Spirobolidae, and Diplopoda are among those present. None of these animals was found to harbor this particular species of mite, although a few have their own species of mite. On 1 April, 1971, a deformed *B. cornutus* was collected from the errarium. Both elytra were shortened and twisted away from the body. *Neochelacheles messersmithi* covered most of the dorsum and extended down to the sides, with a few on the ventral surface. In May other specimens of *cornutus* were collected from the errarium; all of these had normal wings and fewer specimens of *messersmithi*. This orange-yellow mite seems in normal concentrations to prefer the punctations on the elytra and pronotum near the front of the body.

The species is named for Dr. D. H. Messersmith, a dedicated professor of Entomology, at the University of Maryland in College Park.

REFERENCES

- BAKER, E. W. 1958. *Chelacheles strabismus*, a new genus and species of mite from Portugal. (Acarina, Cheyletidae). Proc. Ent. Soc. Wash. 60(5):234-235.
- SUMMERS, F. M. and D. W. PRICE. 1970. Review of the mite family Cheyletidae. Univ. Calif. Pub. Ent. 61:1-153.

ON THE PUERTO RICAN MOTH GENUS *APHANOSARA* FORBES

(LEPIDOPTERA: COSMOPTERIGINAE)

In 1931 (Jour. Dept. Agr. Puerto Rico 15:361), W. T. M. Forbes described a new Puerto Rican moth for which he erected the generic name *Aphanosara*, type-species *planistes* Forbes. Forbes assigned the genus to the Hawaiian group "Diplosaridae" of Meyrick, and he said (p. 362) that it was "the only Diplosarid in the restricted sense known to me outside of Hawaii."

During the writing of my volumes on the Microlepidoptera of Hawaii (in press), I had occasion to investigate the *Aphanosara* problem, and I can report that *Aphanosara* does not belong to the so-called "Diplosaridae" and that it bears no relationship to the Hawaiian fauna as supposed by Forbes. *Aphanosara* is a normal member of the Cosmopteriginae of America.

The only other non-Hawaiian genus which, to my knowledge, has been referred to the "Diplosaridae" is the New Zealand *Irenicodes* Meyrick, 1919 (which Forbes excusably overlooked). I have shown (1971, New Zealand Ent. 5:53) that Meyrick's family placement of *Irenicodes* was erroneous, and the type-species is a typical "elachistid" which in no way is allied to any part of the Hawaiian fauna.

Almost any attempt to use the literature on most groups of Lepidoptera for biogeographical studies or conclusions is doomed to failure because of erroneous taxonomy.

Written during the tenure of a grant from the National Science Foundation.

ELWOOD C. ZIMMERMAN, *Bishop Museum, Honolulu, Hawaii 96818.*